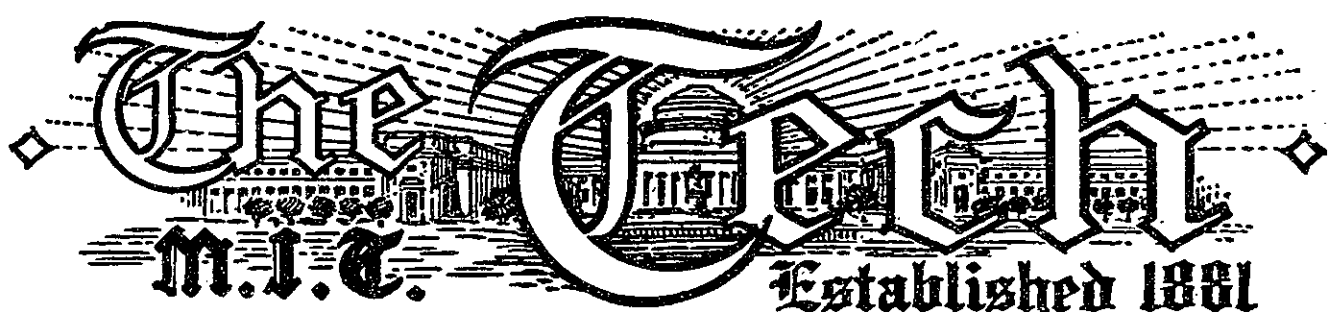


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Volume LI—No. 1

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Price Five Cents

## GYM TEAM WINS FROM ARMY BY 35-19 SCORE

### KNAPP TAKES TWO OF FIVE FIRSTS TO CREDIT OF BEAVERS

Every Man in Meet Counts for Points; Three Men in First Real Meet

### FORD WINS ARMY FIRST

With the triumph of the Gym team over Army, last Saturday afternoon, the new season of sports was opened in a way which augurs well for the future. Winning by the score of thirty-five to nineteen, the Beavers carried off five out of the six first places, every member of the team having a score to his credit.

The only Army first place went to Ford, one of the team's stars, who managed to take the honors in the flying rings from Lawsine, who ran a close second, and Treadwell, who took third, both of the latter being on the Technology team. The rope climb was a Beaver walkaway, all three tallies being made by the Institute team, with Captain Knapp winning first, Barnett second, and Ericson third.

Ericson outdid himself on the parallel bars, to make his event score, one hundred points higher than any other man. Motherwell of Army, took second on the bars, with Barnett, Technology placing third.

The battle on the horizontal bar was as close as any of the matches with Freeman on the Beaver team finally beating out Helms of the Army, for the title. The judges were almost unable to decide which had the better form, and the final score gave Freeman only a four point advantage. Barlow, Army, took the third on the high bar.

Considering that this was the first meet in which three of the men have competed, and that they all scored at one time or another, great credit is due the coach, who has been able to impress upon the men's minds the necessity for perfect co-ordination of brain and muscle to such an extent that even in the excitement and mental stress of a meet in a strange gym, the men worked as well if not better than they have been in the recent practices.

Getting and Treadwell, two sophomores who never have been exposed to anything more serious than an occasional Y. M. C. A. exhibition, were

(Continued on Page Three)

### Orleman Winner In Boxing Meets During Vacation

### Technology Pugilists Defeated By Navy and Catholic University

Technology's boxing team spent the vacation between semesters travelling southward. In their trip they visited Washington and Annapolis, dropping meets in both places. On February 3rd they lost the meet with Catholic University 6-1, and on February 7th they dropped one to the Navy by the same score.

### Oreleman Wins Two

Carl Oreleman proved himself the hero of the trip, winning both of his matches and incidentally scoring the only points for the Institute teams. Both of his wins were on three round decisions.

Most of the fights lost by the Beaver team were close ones, with very few knockouts or technical knockouts. The heavyweight matches in both cases were forfeited to the opponents, with no man competing in the class for Technology.

Saturday night both the Varsity and the freshmen meet Yale, at New Haven. All men should report for training previous to the meet, and any new

(Continued on Page Three)

### Announce Date of Annual Dinner For Institute Alumni

### Physics Department Prepares Spectacular Scientific Demonstration

The annual dinner of the Technology Alumni Association will be held at the Hotel Statler in Boston on February 28, it is announced today. Interesting innovations will mark the evening's program.

A reception preceding the dinner will afford alumni and their guests an opportunity to meet President and Mrs. Karl T. Compton and Dr. Samuel W. Stratton, chairman of the Corporation. For the first time, the committee's invitation includes women guests and the wives of alumni, and dancing will follow the dinner program.

President Compton, Dr. Stratton, and other prominent representatives of the Corporation, faculty, and Alumni Association are to speak briefly. President Compton, in his initial appearance before the annual gathering, will sketch his impression of, and plans for, the Institute. An attractive brochure dealing at length with recent achievements of Technology and plans for its future development will be presented to each guest.

A spectacular scientific demonstration to be given during the dinner is being prepared by the department of physics and electrical engineering, under the direction of President Compton. An extensive exhibit of photographs arranged by Bursar Horace S. Ford will portray intimate glimpses of Institute life, and movies of alumni activities will be shown with the aid of automatic projectors.

Members of the committee in charge of the dinner are: Raymond S. Stevens '17, chairman, Hamilton L. Wood '17, John E. Burchard '23, Henry B. Shepard '16, and Allan Winter Rowe '01.

### PROM SIGNUPS GO ON SALE IN LOBBY

Price Per Couple for Signup Is Placed at \$3.50

Signups for the Junior Prom go on sale today in the main lobby between the hours of nine o'clock and five o'clock. They will continue to be on sale at these same hours on Thursday and Friday of this week and from nine o'clock to one o'clock on Saturday. The price of a signup is \$3.50 per couple or \$17.50 for a complete table including five couples.

Today only Juniors will signup, and the remaining days Seniors, Juniors and Sophomores will signup. Freshmen are not allowed to attend the Prom according to the usual custom. The tables will be arranged on both sides of the Main Hall of Walker Memorial underneath the balconies and in the balconies.

### BEAVER FIVE MEETS ST. MICHAEL'S NEXT

Teams To Play Saturday Night In M. I. T.'s Fifth Game

With the second semester well under way, the basketball team has started preparation for the remaining six games on their schedule. Saturday St. Michael's will be here for the first game of the sextet, and teams of such calibre as Williams, Clark and New Hampshire being included among the others. The freshmen resume their season next Wednesday against the Boston Boys' Club as a preliminary to the Varsity-Williams game.

After winning one of four games played so far, and losing the others by close scores, the Varsity will be out to make up for this in the rest of their encounters. St. Michael's will be a newcomer on the M. I. T. schedule and the comparative strength of the two teams is unknown.

## TECHNIQUE SIGNUPS WILL CLOSE FRIDAY

Many Men Take Advantage Of Reduced Price by Signing Now

Technique's last sign-up campaign which began last Monday and will continue until Friday is now in full swing with a large number of sales reported. The sign-ups are one dollar and are redeemed during the redemption campaign some time in March for three dollars. This effects a saving of one dollar on the year book for those signing up this week since the regular price of the book will be five dollars.

Sign-ups can be made at any time this week in the Main Lobby where a Technique representative will be on hand. This week marks the last opportunity for purchasing the book at the reduced price as the sign-ups positively close on Friday night.

The book this year will have radical improvement over the former volumes. It will be of enlarged size in keeping with the general trend of school year books. A complete history of the Institute, the first to be attempted here, is also contained in the volume. Pictures predominate and the amount of reading matter has been cut down considerably.

In connection with the campaign, Technique has placed a display of old volumes in the show windows of the Coop. The first volume, made in 1885, has drawn considerable attention.

## Give Two Lectures On Anniversary of Famous Scientists

Speakers Will Honor Faraday And Henry For Work In Induction

As its contribution to the celebration of the hundredth anniversary of the discovery of electromagnetic induction by Michael Faraday in England, and Joseph Henry in America, Technology announces two notable lectures on the lives and work of these great scientists. Faraday will be the subject of the first lecture, which will be delivered by Dr. W. F. G. Swann, Director of the Bartol Research Foundation of the Franklin Institute, in Room 2-199 at the Institute at 10 o'clock Friday morning. On Wednesday, February 18, at the same hour and place, Dr. W. F. Magie, Henry Professor of Physics Emeritus of Princeton University, will lecture on the life of Joseph Henry.

Both lectures will be open to the public, as well as the staff and student body of the Institute.

The discovery of electromagnetic induction by Faraday and Henry in 1831 laid the foundation for the modern electrical industry. Joseph Henry lived from 1797 to 1878. His home was in New York and it was he who formulated the principles on which Morse later perfected the telegraph. An eminent mathematician and physicist, he was distinguished for his important contributions to the knowledge of electricity. The Henry, electrical unit of inductance, was adopted in his honor by the International Electrical Congress at Chicago in 1893.

## Male Members of Party Are Supplied by T.C.A.

Service is the motto of the T. C. A.; not content with striving for quantity, they also seem to try to have as many different forms and varieties of assistance as is possible. This is the latest example that has come to light.

A hostess out Newton way wished to entertain three young ladies of her acquaintance; she applied to the T. C. A. for male partners. The partners were duly supplied, and were treated to dinner, the theatre and a dance. Wallie Ross firmly denied any intention of starting a matrimonial bureau.

## NEW DORMS NAMED AS MEMORIAL TO DONORS

### Technology Aids In Organization Of Soccer League

Grading Started on Land For Quartering Shells at Poughkeepsie

Culminating at least two years of effort, a New England Soccer League will be formed it was reported at a meeting of the Advisory Council at the Engineer's Club last evening. The league will be operated by a New England Soccer Association comprised of New England colleges and universities and under the jurisdiction of the Intercollegiate Soccer Association.

Each college represented in the league will compete with at least four other members. Five colleges in the association will be Brown, Yale, Harvard, Dartmouth, and M. I. T. Since these teams are met regularly it will not cause any radical change in the soccer team's schedule. The new plan has resulted in a change in Technology's status from an associate member to a full member in the Intercollegiate Soccer Association.

A letter from a Mr. Peter B. Troy of Poughkeepsie was received which stated that a building for housing the shells will be built this year on city property. Grading operations have been started. It is planned that living quarters will be erected as soon as possible.

An indication that the squash team may get recognition as a varsity sport was seen in the council's decision to pay expenses of the club to an intercollegiate meet to be held by the University Club at Princeton if such a meet is held. The club is waiting for a favorable response from the colleges invited before proceeding with the tournament. Letters were read indicating the popularity of squash at Yale, Princeton, and Harvard. At the latter college a minor "H" is awarded team members.

## CATHOLIC CLUB HAS VALENTINE DANCE

Walker Memorial To Be Scene — Subscriptions \$1.25

A Saint Valentine's Day dance is to be the next social function of the Technology Catholic Club, and will be held in the Main Hall of Walker Memorial on Saturday, February 14, from 8:30 to 12 P. M.

In the past the Club has held several dances to which students were invited to come stag, for purposes of "getting acquainted." As these dances have not met with marked success, the Club has decided to discontinue this policy, and will sell no single subscriptions for the Valentine dance. Subscriptions will be \$1.25 per couple. The dance will be informal.

## ERNEST H. HUNTRESS ART SOCIETY SPEAKER

Lectures on Contributions of Chemistry to Daily Life

Organic chemistry and its far reaching influence in everyday life as well as some of its recent applications to industry will form the basis of the third Popular Science Lecture to be given Sunday afternoon by Professor Ernest H. Huntress, of the department of chemistry at four o'clock in room 10-250.

Dr. Huntress will contrast organic chemistry of a hundred years ago when it was but a study of animal and vegetable substances with its modern laboratory preparation of 300,000 different carbon compounds, describing how after years of study scientists have finally been able to create new substances deliberately designed to fill specific needs of science, industry and daily life. The experiments will relate to motor fuels, refrigerants, textiles, resins, explosives and other common chemicals.

## PROF. PRESCOTT TO ANNOUNCE NAMES AT DEDICATION DINNER

President Compton To Speak: Many Prominent Guests Have Accepted

### DORMS OPEN TO VISITORS

Instead of just a formal dinner and dance next Friday night the Dorm Men will hold the Dormitory Dedication Banquet. No longer will the dormitory men live in halls alphabetically named and no longer will it be said, "he lives in 'L'." for the dormitories will receive the names of some of the prominent donors to the Building Fund. It is rumored that several are still living and they will be present at the Banquet.

President and Mrs. Karl T. Compton, The Corporation, The Alumni Council, The Dormitory Advisory Board, The Hospitality Committee, and former Dean Alfred E. Burton will be the guests of the Dormitory Committee.

Tickets are obtainable from the hall chairmen for the sum of three dollars, an amount which covers only the cost of the dinner, the remainder being taken out of the dormitory tax, thus restricting the attendance to Dormitory men and their guests only.

Tonight at twelve is the dead line for the sale of tickets, since it is necessary to make the proper reservations. Table reservations for parties wishing to sit together may be made tonight after seven o'clock in the committee office and thereafter in Crafts 203 through Lincoln S. Gifford.

### Seven Course Dinner

After a seven course dinner the ceremonies will take place with Harold P. Champlain, president of the senior class, acting as toastmaster. The other guests at the speakers' table will be Mrs. Harold P. Champlain, President and Mrs. Karl T. Compton, Dr. and Mrs. Samuel C. Prescott '94, Dr. Samuel W. Stratton, Phillip F. Frink, chairman of the Dormitory Committee and Miss Kittie Drosnahan. Dr. Compton will speak first and will be followed by Dr. Prescott who will announce the names of the dormitories. Mr. Frink will speak for the Dormitory Committee.

Following the dinner there will be a reception for the President and the

(Continued on Page Four)

## Boston Architects Award \$150 Prize To M.I.T. Student

Design of Technology Man Is Picked From Among 110 In Contest

Frederick A. Pawley, a graduate student of Technology, has been awarded the prize of \$150 offered annually by the Boston Society of Architects to students of the schools of architecture of Harvard, Technology, and the Boston Architectural Club, it was announced today.

Mr. Pawley's home is in Coral Gables, Florida. He was graduated from the Institute last June, and is carrying on graduate work this year. In 1928 he was awarded the Boit Prize. Mr. Pawley prepared for Technology at Blair Academy at Blairstown, N. J. The subject for which the Boston Society of Architects awarded its prize was the tomb of a great musician. 110 projects were submitted in the competition.

The jury consisted of a Committee on Education of the Boston Society of Architects, and its members were: J. F. Clapp, Chairman, R. P. Bellows, '04, N. H. Larsen, all architects of Boston; Professors J. J. Haffner and J. Humphreys, of Harvard University; and Professors J. Carlu and H. W. Gardner of Technology.

# JUNIOR PROM SIGNUPS COMMENCE TODAY

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Official News  
Organ of the  
Undergraduates  
of M. I. T.

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### OVERTURE

THE annual change of the administrative forces behind every undergraduate activity at the Institute is an unfortunate necessity which may temporarily retard the progress of these activities. It is regrettable that men who have successfully guided the policies of a particular branch of extra-curricular endeavor must be replaced by new men every year, who, though their freshness of ideas will ultimately be of value to the activity, may at first be unsteady drivers on a new course.

The Managing Board of Volume LI appreciate the magnitude of the responsibilities thrust upon them, and it will be their most earnest endeavor to further the ideals and policies which have guided former Managing Boards through a half century of successful news service. However, the student body is urged to recognize the fact that a change in the leadership of a student newspaper does not necessarily impair the value of the organization. In THE TECH, as distinct from most of the other Technology activities, men are guided more by precedent than by any other external factor. The powers which administrate the policies of the news organ may change, but the fundamental purposes of the founders, like Tennyson's brook, "go on forever."

Therefore, let the student body regard Volume LI not as a distinct monument wrought by new hands, but as a new stone in the already sturdy structure of Technology journalism, laid in place by men whose sole purpose is to carry on the policies of their predecessors.

### CIVILIZATION COMMERCIALIZED

IN today's "Open Forum" is expressed a sentiment which is undoubtedly the foremost idea in the minds of many Technology students. "The 'brown-bagger' is the keystone of the arch of our social structure," no doubt infers that all civilization is built around the engineer.

The suggestion may seem flattering to the undergraduate body, and there is some amount of sincere thought behind it. However, it is absurdity itself to assert that the Institute and schools of its type are the sole roots of our happy existence. Is art nothing more than applied graphic Calculus; is music the achievement of the physicists; is literature the mere printing with chemical compounds on wood pulp? Civilization is not the state where Boulder Dams and Chrysler buildings flaunt the horizon. The artist, the poet, and the composer are just as vital a part of civilization as the scientific genius, and without them life would be as drab as a steam table.

The Institute is peculiarly characterized by an atmosphere which may inspire naught but a constant association with books, and it cannot be stressed too strongly that the undergraduate may easily fall victim to such an atmosphere. A young man should be able to comprehend ideas and thoughts beyond his own small field of study, even though it is his purpose to devote his entire life to that field. Otherwise, the colleges may be accused of producing a race of self-centered robots.

Diversification of interests is the keynote in the developing of men to whom the future advancement of civilization may be entrusted. A student who aspires to research in a particular branch of knowledge, whether it be of engineering or of artistic interest, may equip himself for a successful career to a much greater extent if he acknowledges the existence of other interests. The men who are judged "brown-baggers" by their fellow students are urged to analyze the matter broadly. A mind that is bound up in nothing but study soon becomes single track, and a single track mind is certainly no boon to society.

## THE OPEN FORUM

To the Editor of THE TECH:

In your articles and editorials in THE TECH I discover that you, or your predecessors, in the least, view with alarm the prevalence of "brown-bagging" at Technology. I am a "brown-bagger" and proud of it. Why? Because I am convinced that the "brown-bagger" is the foundation of civilization. The men that really furthered civilization were "brown-baggers." Not Washington and Napoleon; they were sports and the people their game; but the true contributors to society; Tycho Brahe, Kepler, Lister, Pasteur, Avogadro, Mendeljeff, in short, most of those men whose names adorn the Institute. These men were the "brown-baggers" of their time; they asked the world only for the right to live and work; they had no time for dancing and sports; they brought progress to the world.

Today more than ever we find men and even women ashamed, actually ashamed, of habitual chastity and moderation. We find men ashamed of a dislike for the taste of synthetic gin and pyro ligneous acid (tobacco smoke). They are even ashamed of a lack of worship for the idols of sports and movies.

I maintain that no amount of sport or amusement will bring America into future greatness. The "brown-baggers" must put their shoulders to the wheel and push America out of the mud while the sports and sheiks can only cheer. Why then are "brown-baggers" ashamed of their class? The reason is that moulders of public opinion, even so conservative as THE TECH, try to discourage "brown bagging." Everyone acts as though it were a disgrace to be a "brown-bagger," even the "brown-baggers" themselves. If the apparent aims of this policy are realized it means doom for America.

The "brown-bagger" is the keystone of the arch of our social structure. The artist, the athlete, the Don Juan are ornaments. Harvard will provide the decorations. Let Technology provide for this generation as she has for the previous ones, the foundation for the greatness of America, the "brown-baggers."

T. KRESSER '34.

## LARGE GROUP SPENDS WEEKEND AT THE ARK

Many Go To Tech Cabin In Midyear Vacation Week

Prof. F. K. Morris and sixteen others formed the midyear outing party to Jaffrey, N. H., which was held over the week-end of the first of February. Due to the heavy fall of snow on Saturday, there were many opportunities for winter sports.

The ascent of Mt. Monadnock was attempted by the party on Monday; but the deep drifts prevented some of the members from reaching the summit. The only casualty of the outing occurred when Allan L. Dunning '31 was returning from the summit on Sunday: he broke one of the bones in his foot. All the members of the group were quartered in one of the cabins provided by "The Ark."

A group occupied the Tech Cabin at Camp Massapoag from Tuesday to Friday of last week. Prof. Dean Peabody, former president of the Appalachian Mountain Club, was present, and related some of his mountain climbing experiences.

## Technology Aeronautical Department Possesses Complete Weather Bureau

Students Forecast Atmospheric Conditions Daily Under Supervision

Technology is the possessor of a completely equipped weather bureau which issues daily weather forecasts prepared by students. The bureau is operated as a part of the meteorological laboratory.

Technology is the possessor of a fully equipped weather bureau, despite the fact that the weather around Boston is often very difficult to describe. The work connected with this meteorological laboratory is very interesting and is not maintained without considerable effort.

Professor Carl G. Rossby of the Aeronautical Department is in direct charge of the weather bureau at the Institute. The laboratory is located on the fourth floor of Building 33 and has its own drafting rooms and a complete outfit of apparatus for making meteorological observations. This equipment includes a radio receiving station which is used in the reception of signals from the Naval Observatory at Arlington.

The reports and predictions that are issued daily by the bureau on the bulletin board on the second floor of Building 10 are not derived from observations of the Institute's laboratory alone. The Arlington Observatory collects information from key stations that are located at important positions throughout the country. These reports are put into code and broadcast to local stations including the one at Technology.

### Radio Station Used

At the receiving station the signals are decoded. Students who are taking meteorology are given the data which they plot on regular weather maps twice daily, at 8:00 A. M. and 8:00 P. M. These maps supply the usual data regarding temperature, rainfall, storm areas, wind directions, areas of high and low pressure, and isobars. Isobars are the lines on the charts that connect all the points that are at the same barometric pressure in the same way that contour lines run through points on a map which are all at the same elevation above sea-level.

The pressure areas are first located and then the direction of the wind is noted thus enabling the forecaster to predict the future locations of the high and low pressure areas with considerable accuracy. The path of rainfall areas is determined in much the same manner. In this latter case, however, another factor enters before the prediction of rain can be made, because the body of air that is causing the condensation may cease to precipitate by the time it has moved to another part of the country.

This cessation may be caused by a variety of things. Rain is a result of meeting of air currents of somewhat different temperatures. The cooler air being the denser will displace the warmer air. The latter on rising is allowed to expand because of the decreasing atmospheric pressure.

When it expands it cools and condensation takes place.

In the light of these facts, "the weather forecast for Boston and vicinity" takes on a new aspect from that of just now and then a "lucky" guess. It, however, cannot be said to have all the precision characteristic of a mathematical formula because the deductions are simply based on experience and the hope that nature will repeat itself under a certain set of conditions.

Many people have certain age old beliefs that seem to be handed down to them by traditions, and in which they believe completely regardless of scientific reason. One of these, for example, is the well known "January thaw." The thought behind it is that the month of January has certain peculiar phenomena which never occur in any other month. Thaws are merely periods of unusual warmth which may occur in almost any month. They are caused by wind from the tropical regions. The cold spells that often occur in the summer are very similar in origin, the only difference being that in this case the wind comes from the Arctic regions.

From the foregoing statements it is evident that the work of a weather bureau resolves itself into two and in the case of the Institute's bureau three distinct functions. The first function consists of putting out weather bulletins, preparing charts, and recording facts for future use. Secondly new facts regarding meteorology must be discovered and brought to the attention of the public. These facts help to lessen the strong belief in such things as the "January thaw." The additional function of the bureau at the Institute is to train men in this phase of science and is of course the main reason for maintaining it at Technology.

42 out of 54 colleges choose this FAVORITE pipe tobacco



and Yale agrees

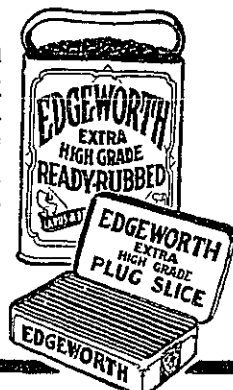
LOOK UP at the windows of L Harkness to find out what the Yale man smokes. In the spring-time you'll see him sitting in his window seat with a pipeful of Edgeworth between his teeth.

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# Electrical Engineering Department Develops New Type of Stroboscope

## Device Permits Photography Of High Speed Mechanisms While In Motion

A new type of stroboscope, a scientific device for "stopping" motion to study the behavior of machines operating at high speed, has been developed in the department of electrical engineering at the Institute it was announced today.

The name stroboscope means "whirling watcher," and these instruments have long been used to study motion. The new type of stroboscope, which was developed at Technology by Harold E. Edgerton, a member of the instructing and research staff, opens up a new field of research in that it permits "stop-motion" photography of moving machinery. Photographic exposures with the new instrument are made at ten one millionths of a second.

### Thyratron Used

The unique feature of Technology's stroboscope is the electrical circuit which causes a condenser to discharge periodically through a thyratron mercury arc tube. An intense blue actinic light of extremely short duration, precisely timed to correspond with the speed of the machine observation, is produced by a large current through the tube, and makes it possible to adapt the stroboscope for photographic as well as visual observation. In the study of a synchronous motor, for example, the flashes occur as the north and south poles reach a given point in their whirling course. The thyratron is a tube that has been developed during the last few years by the General Electric Company.

### Photograph At Full Speed

So powerful is the new stroboscope that still and motion pictures of a 160 horse power motor have been made while the machine was running at full speed. Although the rotor was turning over at a rate corresponding to a ground speed of 95 miles an hour, every detail of the moving parts was shown as clearly as if the machine was standing still. Thus it was possible to study the characteristics of the machine from the moment the power was applied until it reached full speed. The stroboscopic motion pictures of this motor, believed to be the first ever taken, will be shown for the first time at the forthcoming convention of the American Institute of Electrical Engineers in New York.

Technology's new stroboscope is being used chiefly to study rotating electrical machinery, but it can be employed to "stop motion" in almost any type of machinery, and will be useful for studying the behavior of cams, springs, valves, and other moving parts.

### Wide Usage

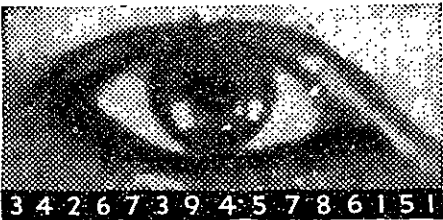
The instrument will be particularly valuable for the study of electrical machinery. It will make possible highly accurate studies of the angular displacement of motors, generators, condensers, and lines during switching or short circuit disturbances. In the steel industry and in many other manufacturing processes, motors are often subjected to violent sudden load changes. The new stroboscope will make it possible to see and record photographically just what happens in the motor under such operating conditions.

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## Institute Boxers Are Introduced to Hoover

On its trip south to play Catholic U. and Navy, the Technology boxing team passed through the National Capitol. Here it gained audience with President Hoover at his executive offices in the White House. The president declared that a knowledge of fighting, jiu jitsu, etc. was useful in his game. The team was introduced by Congressman Underhill of Massachusetts.

## THE EDITORIAL SPECULUM

### EINSTEIN VS. RIPLEY

What with newspaper men preparing stories on Einstein's theories and then dispatching them over telegraph lines, probably to a re-write man, it is little wonder that the theories when they reach the reading public, are remarkable. However, regardless of the amount of jumbling that may have taken place, the newspaper version cannot be any more removed from ordinary thought processes than was the original. Dr. Einstein's visit to America has popularized discussions of his works. What is the relativity theory? What is the fourth dimension? And many other similar queries are bidding fair to usurp the backgammon board in drawing-room interest.

Dr. Einstein has pointed out that the idea should be dispelled that only a dozen men in the world understand his discovery. He says that his theories are fully as easy for the layman to comprehend as the average important theory that has been propounded during the long history of science. Nevertheless, it is true that many of his ideas cannot be grasped by the imagination and can only be proved by a mathematical formula. The result is as correct as the assumptions upon which the formula was based and no more so. Unless the assumptions are correct his theories cannot stand. For example, the central and perhaps the most important idea embraced in all of his discoveries is that time is a dimension of an object just the same as the three accepted dimensions of length, breadth and thickness. From this it follows that if time is a dimension then a rapidly moving object is not of the same dimensions when relatively at rest. The word "moving" however, is used to its fullest extent. A foot ruler in order to shrink to a mere six inches would have to travel at the rate of 161,000 miles a second. Another feature of Dr. Einstein's theory is that space is curved, there is no straight line in the conventional sense. Even light waves travel in circles and eventually if they are not deflected by some means will come back to their starting points. Again, the word "eventually" is gigantic in meaning. For example, if it were possible to secure a telescope very much more powerful than produced to date, a man could look through it and if he waited for eight raised to the twelfth power billion of years he would just see his rear collar button loom into sight. Sir Isaac Newton decided that all objects fall toward the earth because of a force, that he labeled gravitation, pulled on them. Dr. Einstein goes one step farther and says that objects fall towards earth because they are pushed in that direction. However, great as these theories may be, it is acknowledged by all interpreters of both Einstein and Newton that the man's name shall go down in golden ink who can say precisely why ordinary water runs down hill.

A new idea for dances! At Brigham Young University, instead of the ordinary idea of tapping the partner of the girl you wish to dance with, the "cut-in" merely gives the "cut-out" a large yellow lemon and dances away with the fair one.

The latest practical invader of the erstwhile cultural curriculum of the American college is a course on how to keep well while traveling in the tropics. To be offered during the coming semester by the University of California.



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## February Review

### Features Article

By Dr. Butler

## Rise of Aluminum to Place of Importance Told by Prof. Robert S. Williams

That science is rapidly following the classics to academic oblivion is the conviction of Nicholas Murray Butler, President of Columbia University. In an article "Science Endangered," the February issue of the Technology Review reproduces a portion of his 1930 President's report. Mr. Butler traces first, the decline of the classics, second, the similar decline of science as a cultural pursuit. Greek language and literature, Greek history, Greek eloquence, Greek philosophy, Greek institutional life have not only lost recognition in secondary schools but are also accorded too little importance in universities. So the study of pure science, which has made all the world "the playground of the mind," is doomed to the same fate, by its practical applications and minute technology. In suggesting a remedy for this deplorable situation, Mr. Butler urges that everything be done to prevent the use of science for worldly gain and this end, he declares, can be accomplished when more general interpretation is substituted for limited specialization.

"In 1856 the Prince Imperial of France was one year old, and with that touch of nature which makes the whole world kin, including royal babies, he required a rattle. His desire being a common one, it was fitting that its fulfillment take an uncommon form. A gold or silver rattle would have been costly, but not uncommon, so the royal attendants searched for another material. Happily, there was a new metal that had been first made in 1827, that cost \$300.00 a pound, and that was very rare, a fitting material from which to make a royal rattle. This metal was aluminum, and its use for the Prince's rattle constituted the first known commercial use of that metal." Thus begins the story of aluminum's rise as told by Professor Robert S. Williams of the Department of Mining and Metallurgy. Professor Williams tells of its first real use as a surveyor's transit in 1876; of the first method of producing it cheaply; of its relation to the automobile industry; of its alloys; and of its present importance. The article is illustrated with photographs showing aluminum used for decorating purposes, as, for instance, a hand-wrought radiator grille of extraordinary beauty. B. Alden Thresher '20, contributes to this issue "Inventions and Economics," explaining the social implications of technical research and the economic phases of invention. It is Mr. Thresher's belief that the economist must acquire the engineering attitude as well as the financial.

Dean Lobdell answers the questions: what are the fastest trains, and are American trains as fast as European? in a comparison of train speeds. "The Fastest Trains" is accompanied by a table of fast railroad runs between metropolitan centers in the United States and Canada.

## M. I. T. BOXERS LOSE VACATION MATCHES

(Continued from Page One)  
men desirous of coming out should do so immediately.  
Individual scoring for the meets follows.

Catholic U. 6—M. I. T. 1  
115 lb. class—Orieman (M. I. T.) defeated Answorth (C. U.)  
125 lb. class—Calabrese (C. U.) defeated Christofalo (M. I. T.)  
135 lb. class—Di Giacomo (C. U.) defeated Daniels (M. I. T.)  
145 lb. class—Stines (C. U.) defeated Thompson (M. I. T.)  
160 lb. class—Blasi (C. U.) defeated Cooper (M. I. T.)  
175 lb. class—Pyne (C. U.) defeated Cashman (M. I. T.)  
Heavy—M. I. T. forfeited to C. U.  
Navy 6—M. I. T. 1  
115 lb. class—Orieman (M. I. T.) defeated Dolan (Navy).  
125 lb. class—Tolley (Navy) defeated Christofalo (M. I. T.)  
135 lb. class—Wallace (Navy) defeated Daniels (M. I. T.)  
145 lb. class—Hall (Navy) defeated Thompson (M. I. T.)  
160 lb. class—Andrew (Navy) defeated Cooper (M. I. T.)  
175 lb. class—Johnson (Navy) defeated Cashman (M. I. T.)  
Heavy—M. I. T. forfeited to Navy.

## GYM TEAM WINS FROM ARMY IN FIRST MEET

### New Schedule Promises Much Keen Competition

(Continued from Page One)  
as steady as veterans when in their events, and managed to take places in each.

The team is in shape now to go ahead with the same sort of assurance that carries the rifle team to its matches with the feeling of another win before they have even started. The next meet is something of an unknown quantity this early in the season, being here with N. Y. U. There is usually not much trouble encountered on this quarter, but this year sees the addition of a new man to the team, by the name of Witzig, an Olympic star, who took the field in the parallel and high bars in the last Olympic competition and is in as good form now as he was then. In addition to this he seems to be an excellent all-around man, and will certainly cause keen struggling for the championship in every match that he enters.

The meet with N. Y. U. takes place next Friday, and will be held in Walker Gym, at the Institute. Following this the team will meet Princeton, Dartmouth, Temple, and Navy, before entering the intercollegiate.

The summary is as follows:

Horizontal Bars—First, Freeman, M. I. T.; second, Helms, Army; third, Barlow, Army.

Rope Climb—First, Knapp, M. I. T.; second, Barnett, M. I. T.; third, Ericson, M. I. T.

Parallel Bars—First, Ericson, M. I. T.; second, Motherwell, Army; third, Barnett, M. I. T.

Side Horse—First, Knapp, M. I. T.; second, Lawsine, M. I. T.; third, Getting, M. I. T.

Flying Rings—First, Ford, Army; second, Lawsine, M. I. T.; third, Treadwell, M. I. T.

Tumbling—First, Abbott, M. I. T.; second, Yates, Army; third, Neely, Army.

### BOOK EXCHANGE

Any men wishing to dispose of books required during the coming term are urged to bring them into the T. C. A. office; there is a large demand for them.

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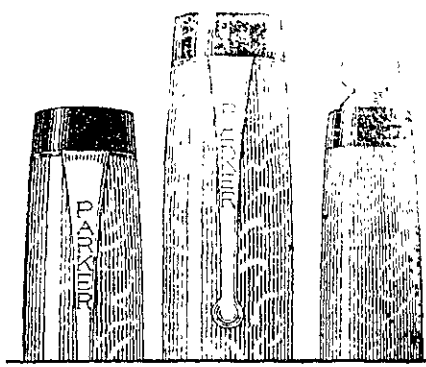
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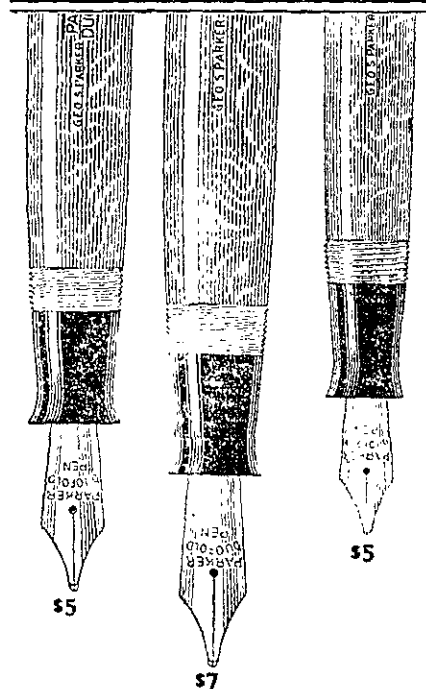
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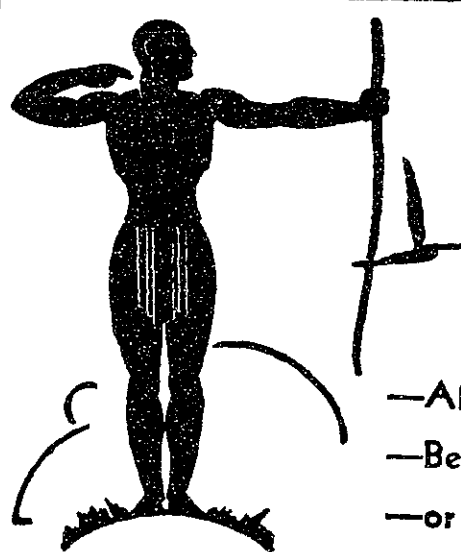
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## OFFICIAL BULLETINS OF GENERAL INTEREST

**Joint Colloquium** **Dr. Wayne B. Nottingham**  
**Wednesday, February 11, 4 P.M., Room 10-275**

A joint colloquium of the Departments of Physics and Electrical Engineering will be held on the subject of "Thyratrons," to be led by Dr. Wayne B. Nottingham, of the Bartol Research Laboratory.

Open to seniors, graduate students and members of the instructing staff.

**Physics Colloquium** **Professor H. N. Russell**  
**Thursday, February 12, 4 P.M., Room 4-270**

A paper will be presented by Professor H. N. Russell, of Princeton University and Mt. Wilson Observatory on "The Spark Spectrum of Lanthanum (describing work done in collaboration with Dr. Meggers)."

Open to graduate students and members of the instructing staff.

**Popular Science Lecture** **Professor Ernest H. Huntress, Ph.D.**  
**Sunday, February 15, 4 P.M., Room 10-250**

Professor Huntress, Assistant Professor of Chemistry, will be the speaker at the Popular Science Lecture which is under the auspices of the Society of Arts. The subject of his lecture will be "Some Contributions of Organic Chemistry to Daily Life."

## CALENDAR

### Wednesday, February 11

5:00-6:30 P.M.—Tech Show Cast rehearsal, North Hall, Walker Memorial.

7:30-10:30 P.M.—Tech Show rehearsal, Walker Gym.

### Thursday, February 12

7:30 P.M.—Tech Show Orchestra rehearsal, East Lounge, Walker Memorial.

5:00-6:30 P.M.—Tech Show rehearsal, Faculty Dining Hall, Walker Memorial.

6:00 P.M.—Mass. Safety Council dinner meeting, North Hall, Walker Memorial.

7:30 P.M.—Tech Show rehearsal, Walker Gym.

### Friday, February 13

5:00-6:00 P.M.—Banjo Club Rehearsal, East Lounge, Walker Memorial.

4:00-6:30 P.M.—Gym Meet, Walker Gym.

7:30 P.M.—Fencing Meet, Hangar Gym.

8:00 P.M.—Chess Team contest, Faculty Dining Hall, Walker Memorial.

6:30 P.M.—Formal Dorm dinner dance, Main Hall, Walker Memorial.

## Contract For Highest Dam In World To Be Let By Government on Mar. 4

### Boulder Dam in Black Canyon Will Be 730 Feet High And 650 Feet Thick

Less than a month from the present time, on March 4, the U. S. Bureau of Reclamation, a branch of the Department of Interior, will let the contract for the highest dam in the world, the Boulder Dam, a part of the Black Canyon Project.

There, thirty miles southwest of Las Vegas, Nevada, between the high cliffs on either side of the Colorado River, will be completed seven years from now an arch dam 730 feet high and 650 feet thick at the base. It will form a lake more than a hundred miles in length. One hundred and eight million dollars will be expended on the project, which includes the dam proper, two temporary cofferdams, four diversion tunnels each 50 feet in diameter, a power house of 12 or 16 units, four intake towers 30 feet in diameter, and four outlet valve houses.

The dam, the largest in the world, will contain more than three million cubic yards of concrete, all of which must be placed from buckets. At the crest where it will be crossed by an automobile highway, the dam will be 1150 feet long.

The construction of this project in practically a virgin territory will require the building of a complete town to house the workers and their families, a railroad from existing lines to the dam site, and a highway to connect with the road systems of the two states whose boundary the river forms.

#### To Build Model City

Boulder City, Nevada, the town to be built, will be far different from the temporary construction camps that have been used on some of the great engineering projects in the past. An experienced city planner is laying out a model town which will be used by the workers on the dam during the construction and which will form the nucleus of the industrial city which will probably grow up because of the abundance of cheap electrical power to be furnished by the development at the dam site.

The railroad to be built from Boulder City to the dam site is a marvel of skillful location as is also the automobile highway to be built. At the dam site will be built an elevator capable of handling loaded railway cars to get construction materials down the canyon walls to the scene of activities. The elevator will be built on the Nevada side of the river and will be below the dam.

Above and below the dam huge cofferdams will be built to protect the site from the waters of the Colorado, which will be diverted through the four 50-foot tunnels. After the dam has been completed, these tunnels, which are 4000 feet long will be used as penstocks and spillway discharge

conduits. More than 1,225,000 cubic yards of fill will be required for the two cofferdams, and almost two million cubic yards of material will be taken from the four diversion tunnels.

#### Special Contract Conditions

Several special conditions are being called for in the specifications that have been issued to bidders on the project. The most important of these is the assumption by the government of risk from floor waters after the diversion tunnels and cofferdams have been finally accepted by the engineers.

There are few labor restrictions on the huge project, the contractor is given a free hand in his choice of labor with the exception that Mongolian labor cannot be used. First preference is given to ex-service men and second to citizens of the United States. No mention of the wages to be paid will be made in the contract.

A bidding bond of two million dollars will be required of all those competing for the work, and the successful bidder will post a surety bond for five million dollars, regardless of the total amount of the contract.

#### Power in 1936

The time schedule for the project calls for completion of the dam to a point where water storage can begin at the end of 1935 calendar days after notice to begin operations is given. The power house for the first six units must be completed at the end of 1600 days. Concrete in the dam must be placed beginning on December 1, 1934; water storage will begin in June 1936, and power will be developed on September 1, 1936.

All material entering permanently into the structure with the exception of sand and gravel will be bought by the government. Thus the government furnishes all cement, reinforcing, rails, wire fabric, rods and bolts, expansion shields, conduit lining, all hydraulic machinery, all operating machinery, and all generating equipment.

The contractor will furnish all sand, gravel and rock, all construction material such as form lumber, form hardware, temporary timbering, and steel liner plates for the tunnels if required.

#### Will Irrigate Million Acres

Water from the completed project will be used to irrigate more than a million acres of now arid land in the Imperial and Coachella Valleys, and to supply the ever growing needs of Los Angeles and the surrounding cities for water.

The aqueduct to be built to carry water from the dam to the coast will be the largest and most costly of its kind. Surveys to determine the best route for the aqueduct have been in progress for several years.

One of the hottest and driest parts of the entire United States will be furnished by the new project, which will create a storage basin for 30,500,000 acre feet of water, 582 feet deep, and 115 miles long.

## Seek Services of College Men For Marine Aviation

### Free Training Course Offered To Graduates Entering Reserve Corps

To college graduates interested in Aviation the U. S. Marine Corps is offering an opportunity for approximately a two years Aviation Course with the U. S. Marine Corps Reserve. American citizens between 20 and 27 years of age, who have obtained a college degree and who can pass the flight physical examination as given by a Naval Flight Surgeon, are eligible.

During the coming summer there will be three preliminary elimination aviation training classes at Squantum, Mass., at thirty day intervals, the first of these starting about the fifteenth of June 1931.

#### Training at Pensacola

Students successfully completing this course are ordered immediately to the Naval Air Station, Pensacola, Florida, where they are given the full nine to ten month advanced aviation course with the Regular service. This course includes training in all service type planes, and in both land and sea planes. Candidates who complete this course are designated Naval Aviators, given their "wings," commissioned Second Lieutenants in the Marine Corps Reserve, and ordered to one year's active duty with the Regular Marine Corps at Quantico, Va., or San Diego, Cal.

During the first phase of training, while the candidate is a student, he is furnished with food, uniforms, and quarters, and paid approximately \$54.00 per month, in addition. During the year's active duty as a commissioned officer his pay and allowances amount to approximately \$215.00 per month.

## NAMES TO BE GIVEN TO NEW DORM UNITS

(Continued from Page One)

receiving line will consist of President and Mrs. Compton, Dr. Stratton, Professor and Mrs. Leicester F. Hamilton '14, and Phillip F. Frink.

While the floor is being cleared for dancing the bowling alleys and the pool room will be open to guests free of charge and the entire Walker Memorial Building will be open. Open house will be observed in the dormitories, the exact hours will be announced later.

#### Ruby Newman's Orchestra

At ten o'clock or as soon after as the Main Hall is cleared for action the dancing will start. Ruby Newman and his Ritz Carleton Orchestra will furnish the music which will last until three o'clock. During intermission, at twelve thirty, refreshments will be served.

Chaperones will be the Dormitory Advisory Council, consisting of Professor and Mrs. Leicester F. Hamilton, Mr. and Mrs. Horace S. Ford and Dean Harold E. Lobdell '17 and his mother Mrs. Kathryn Wiswall. The Committee in charge of the affair is led by Lincoln S. Gifford '31, chairman, the other members being William T. Moody '31, William Harig '31, Edward M. Heffernan '31 and Frank H. Simon '31.

## UNDERGRAD NOTICE

So many men have expressed disappointment at not being able to fit the course in Humanities into their schedule that the class will be conducted this term in two sections instead of only one. The first section will meet on Tuesdays and Thursdays at 1.00 o'clock in room 5-226; the second section will meet at the same hour on Wednesdays and Fridays; but in room 5-330 as given in the tabular view.

Today at five the T. C. A. Cabinet will hold its first meeting of the term in the rear T. C. A. Office.



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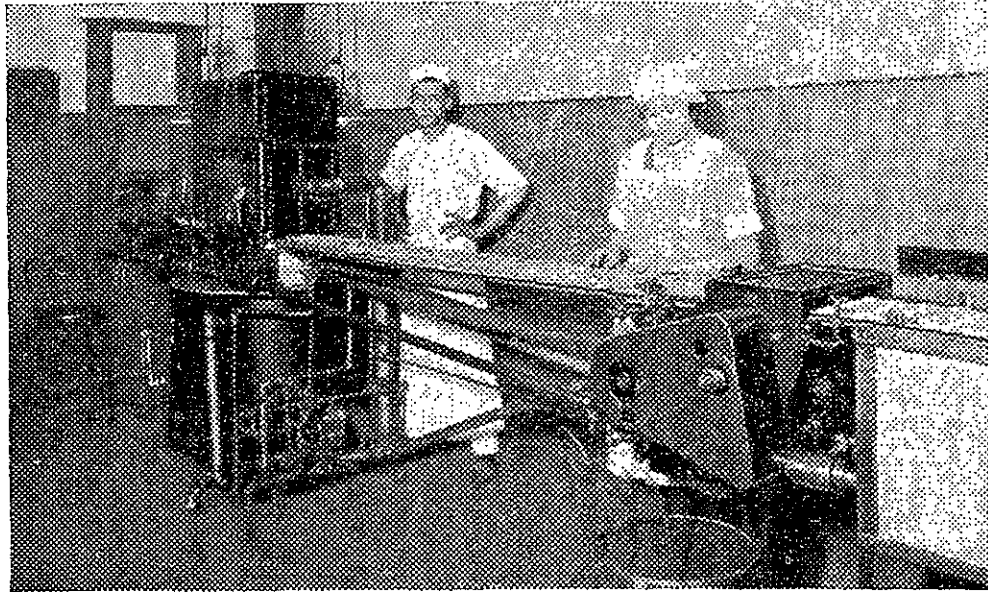
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